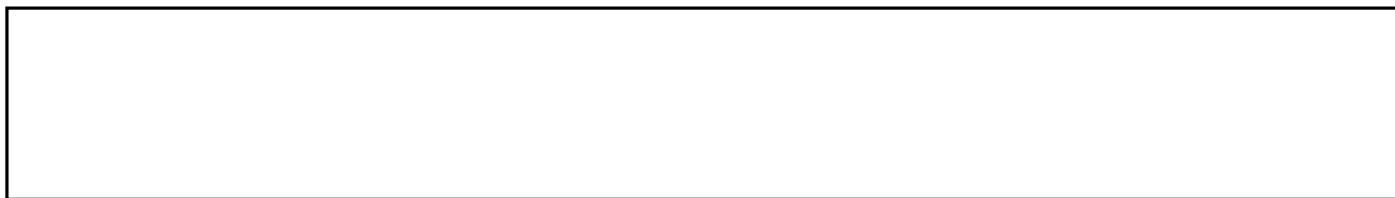


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August 3, 1970

Attention: John C.

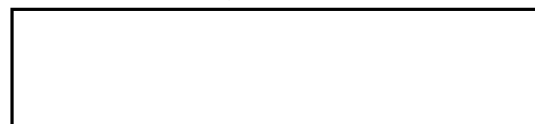
Dear John:

Enclosed please find three (3) copies of 2201201-TPR-3
dated August 3, 1970.

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Sincerely yours,



Senior Staff Scientist

PSC/j
Enclosures

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Declassification Review by
NGA/DoD

SECRET

August 3, 1970

To: John C.

From:

Subject: Technical Progress Report No. 3

Reference: 201201-TPR-3

This is the third monthly contract technical progress report covering the effort performed on Contract No. [] from June 20, 1970 to July 20, 1970.

During this month the laboratory support effort was shifted from operating on the coherent interferometer and coherent optical processor to the partially coherent optical processor. As part of this redirection a briefing was presented at the customer's facility on 8 July 1970 by [] The coherent processing activity will be continued by co-op students during the summer months under technical direction. The program for partially coherent processing is being performed on the Beck bench, initial direction has been specified, and one trip to the laboratory has been applied to this activity. During the past month seven man days by [] personnel were spent at the laboratory facility.

The microscope viewing system specifications program has progressed from several viewpoints. Referring to the program schedule in the proposal ([]P-70-5) we note that a significant input to this program has been obtained from the first two items, the literature search and technology assessment and analysis of the application of analog

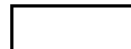
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
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processing to viewing devices. During this month we have initiated work in establishing desired characteristics of filters and determining low-noise filter production techniques. This step has been clearly delineated because of the availability and application of the micro-optical benches and the initial experiments conducted thereon. Filters generated on a grainy emulsion introduce coherent speckle patterns in the output image plane. The reduction of noise can be obtained by using grainless materials for filter production or by unique methods for application of the filters. These are being investigated and specifications will be delineated. Experiments are presently being conducted with conventional and non-conventional illumination sources and with 4x and 10x microscope objectives combined with a 10x eyepiece.

During the coming month the laboratory effort at the customer's facility will be continued according to the schedule projected in the activity summary  2201201-AS-10 dated 9 July 1970. We will also be applying a combined effort to specify filters, correlating the specifications of macro and micro scaled high frequency enhancement filters. The micro-optical work will, during the coming month, be continued in a laboratory effort to demonstrate high frequency image enhancement. Also, a review of the first milestone period and recommendations will be made in the next monthly letter report, based on the schedule documented in the proposal.